C1 cont

R^1 is a halogen atom, a hydroxyl group, a methyl group, a trifluoromethyl group, a methoxy group, an ethoxy group or a hydrogen atom;

R^2 is a halogen atom, a hydroxyl group, a straight-chain or branched-chain, saturated or unsaturated alkoxy group with 1 to 6 carbon atoms or a hydrogen atom;

R^4 is a halogen atom, a straight-chain or branched-chain, saturated or unsaturated alkyl group with 1 to 10 carbon atoms, a trifluoromethyl or pentafluoroethyl group, a straight-chain or branched-chain, saturated or unsaturated alkoxy group with 1 to 6 carbon atoms or a hydrogen atom;

R^7 is a halogen atom in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated alkoxy group with 1 to 6 carbon atoms, an optionally substituted aryl or heteroaryl radical or a hydrogen atom;

R^8 is a hydrogen atom in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position or a cyano group in α- or β-position;

R^9 is a hydrogen atom in α- or β-position, a methyl, ethyl, trifluoromethyl or pentafluoroethyl group in α- or β-position;

R^{11} is a nitrooxy group in α- or β-position, a hydroxyl or mercapto group in α- or β-position, a halogen atom in α- or β-position, a chloromethyl group in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated alkoxy or alkylthio group with 1 to 6 carbon atoms, an optionally substituted aryl or heteroaryl radical or a hydrogen atom;

R^{13} is a methyl, ethyl, trifluoromethyl or pentafluoroethyl group in β-position;

and either

R^{14} is a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position or a hydrogen atom in α- or β-position

and

R^{15} is a halogen atom in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position that can be interrupted by one or more oxygen atoms, sulfur atoms, sulfoxide or sulfone groups or imino groups = $NR^{15'}$ wherein $R^{15'}$ = hydrogen atom, methyl, ethyl, propyl, i-propyl; or a hydrogen atom

or

R^{14} and R^{15} together is a 14α,15α-methylene or 14β,15β-methylene group that are optionally substituted with one or two halogen atoms;

R^{16} is a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a trifluoromethyl or pentafluoroethyl group, a cyanomethyl group or a hydrogen atom in α- or β-position;

R^{17} is a halogen atom in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position or a hydrogen atom,

the dotted lines ------ in rings B, C and D indicate single bonds, and

the wavy lines mean the arrangement of the respective substituent in α- or β-position,

excluding the compounds estra-1,3,5(10)-triene-3,16α-diol, estra-1,3,5(10)-triene-3,16β-diol, 16 -ethinylestra-1,3,5(10)-triene-3,16α-diol and 16 -ethinylestra-1,3,5(10)-triene-3,16β-diol.

54. A compound according to claim 53, in which radicals R^1 to R^{17}, independently of one another, have the following meanings

R^1 is a fluorine atom, a hydroxyl group, a methyl group, a trifluoromethyl group, a methoxy group, an ethoxy group or a hydrogen atom;

R^2 is a fluorine atom, a hydroxyl group, a methoxy or ethoxy group or a hydrogen atom;

R^4 is a fluorine atom, a methyl, ethyl, trifluoromethyl, methoxy or ethoxy group or a hydrogen atom;

R^7 is a fluorine atom in α- or β-position, a methyl, ethyl, propyl or i-propyl group in α- or β-position, an optionally substituted aryl radical, a trifluoromethyl group in α- or β-position or a hydrogen atom;

R^8 is a hydrogen atom in α- or β-position, a methyl or ethyl group in α- or β-position;

R^9 is a hydrogen atom in α- or β-position, a methyl, ethyl, trifluoromethyl or pentafluoroethyl group in α- or β-position;

R^{11} is a nitrooxy group in α- or β-position, a hydroxyl group in α- or β-position, a fluorine atom in α- or β-position, a choromethyl group in α- or β-position, a methyl group in α- or β-position, a methoxy group in α- or β-position, a phenyl- or 3-methylthien-2-yl radical in α- or β-position or a hydrogen atom;

R^{13} is a methyl or ethyl group in β-position;

and either

R^{14} is a hydrogen atom in α- or β-position or a methyl group in α- or β-position

and

R^{15} is a fluorine atom in α- or β-position, a methyl group in α- or β-position, or a hydrogen atom,

or

R^{14} and R^{15} together mean a 14α,15α-methylene group or a 14β,15β-methylene group,

R^{16} means a methyl, ethyl, ethinyl, propinyl or trifluoromethyl group;

R^{17} means a fluorine atom in α- or β-position, a methyl group, or a hydrogen atom.

55. A compound of formula I according to claim 53, in which

R^{7} means a halogen atom in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated alkoxy group with 1 to 6 carbon atoms, or an optionally substituted aryl or heteroaryl radical

and

R^{1}, R^{2}, R^{4}, R^{8}, R^{9}, R^{11}, R^{14}, R^{15}, R^{16} and R^{17} in each case are a hydrogen atom.

56. A compound of formula I according to claim 53, in which

R^{11} is a nitrooxy group in α- or β-position, a hydroxyl or mercapto group in α- or β-position, a halogen atom in α- or β-position, a chloromethyl group in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a straight-chain or branched-chain, saturated or

unsaturated alkoxy or alkylthio group with 1 to 6 carbon atoms, or an optionally substituted aryl or heteroaryl radical, and

R^1, R^2, R^4, R^7, R^8, R^9, R^{14}, R^{15}, R^{16} and R^{17} in each case are a hydrogen atom.

57. A compound of formula I according to claim 53, in which

R^{15} is a halogen atom in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position that can be interrupted by one or more oxygen atoms, sulfur atoms, sulfoxide or sulfone groups or imino groups = $NR^{15'}$ ($R^{15'}$ = hydrogen atom, methyl, ethyl, propyl, i-propyl), and

R^1, R^2, R^4, R^7, R^8, R^9, R^{11}, R^{14}, R^{16} and R^{17} in each case are a hydrogen atom.

58. A compound of formula I according to claim 53, in which

R^7 is a halogen atom in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated alkoxy group with 1 to 6 carbon atoms or an optionally substituted aryl or heteroaryl radical,

R^{11} is a nitrooxy group in α- or β-position, a hydroxyl or mercapto group in α- or β-position, a halogen atom in α- or β-position, a chloromethyl group in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated alkoxy or alkylthio group with 1 to 6 carbon atoms or an optionally substituted aryl or heteroaryl radical, and

R^1, R^2, R^4, R^8, R^9, R^{14}, R^{15}, R^{16} and R^{17} in each case are a hydrogen atom.

59. Compounds of general formula I according to claim 53, in which

R^7 is a halogen atom in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated alkoxy group with 1 to 6 carbon atoms or an optionally substituted aryl or heteroaryl radical,

R^{15} is a halogen atom in α- or β-position or a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position that can be interrupted by one or more oxygen atoms, sulfur atoms, sulfoxide or sulfone groups or imino groups = $NR^{15'}$ ($R^{15'}$ = hydrogen atom, methyl, ethyl, propyl, i-propyl), and

R^1, R^2, R^4, R^8, R^9, R^{11}, R^{14}, R^{16} and R^{17} in each case are a hydrogen atom.

60. A compound of formula I according to claim 53, in which

R^{11} is a nitrooxy group in α- or β-position, a hydroxy or mercapto group in α- or β-position, a halogen atom in α- or β-position, a chloromethyl group in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated alkoxy or alkylthio group with 1 to 6 carbon atoms or an optionally substituted aryl or heteroaryl radical,

R^{15} is a halogen atom in α- or β-position or a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl

group with 1 to 10 carbon atoms in α- or β-position that can be interrupted by one or more oxygen atoms, sulfur atoms, sulfoxide or sulfone groups or imino groups = $NR^{15'}$ ($R^{15'}$ = hydrogen atom, methyl, ethyl, propyl, **i**-propyl), and

R^1, R^2, R^4, R^7, R^8, R^9, R^{14}, R^{16}, and R^{17} in each case are a hydrogen atom.

61. A compound of formula I according to claim 53, in which

R^7 is a halogen atom in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated alkoxy group with 1 to 6 carbon atoms or an optionally substituted aryl or heteroaryl radical,

R^{11} is a nitrooxy group in α- or β-position, a hydroxyl or mercapto group in α- or β-position, a halogen atom in α- or β-position, a chloromethyl group in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position, a straight-chain or branched-chain, saturated or unsaturated alkoxy or alkylthio group with 1 to 6 carbon atoms or an optionally substituted aryl or heteroaryl radical,

R^{15} is a halogen atom in α- or β-position, or a straight-chain or branched-chain, saturated or unsaturated, optionally partially or completely fluorinated alkyl group with 1 to 10 carbon atoms in α- or β-position that can be interrupted by one or more oxygen atoms, sulfur atoms, sulfoxide or sulfone groups or imino groups = $NR^{15'}$ ($R^{15'}$ = hydrogen atom, methyl, ethyl, propyl, **i**-propyl), and

R^1, R^2, R^4, R^8, R^9, R^{14}, R^{16} and R^{17} in each case are a hydrogen atom.

62. A compound according to claims 53, wherein one or both hydroxyl groups is (are) esterified at C atoms 3 and 16 with an aliphatic or aromatic carboxylic acid or with an α- or β-amino acid.

63. A compound according to claim 53, which compound is:

14α,15α-methylen-estra-1,3,5(10)-triene-3,16α -diol,

14β,15β-methylen-estra-1,3,5(10)-triene-3,16α-diol,

7α-fluoro-estra-1,3,5(10)-triene-3,16α -diol,

11β-methoxy-estra-1,3,5(10)-triene-3,16α-diol,

7α-methyl-estra-1,3,5(10)-triene-3,16α-diol,

11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

8α-estra-1,3,5(10)-triene-3,16α-diol,

estra-1,3,5(10)-triene-2,3,16α-triol,

17β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

18a-homo-estra-1,3,5(10)-triene-3,16α -diol,

18a-homo-14α,15α-methylen-estra-1,3,5(10)-triene-3,16α-diol,

14α,15α-methylen-estra-1,3,5(10)-triene-3,16β-diol,

14β,15β-methylen-estra-1,3,5(10)-triene-3,16β-diol,

7α-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

11β-methoxy-estra-1,3,5(10)-triene-3,16β-diol,

7α-methyl-estra-1,3,5(10)-triene-3,16β-diol,

11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

8α-estra-1,3,5(10)-triene-3,16β-diol,

estra-1,3,5(10)-triene-2,3,16α-triol,

17β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

18a-homo-estra-1,3,5(10)-triene-3,16β-diol,

18a-homo-14 ,15 -methylen-estra-1,3,5(10)-triene-3,16β-diol,

7α-ethyl-estra-1,3,5(10)-triene-3,16α-diol,

7α-propyl-estra-1,3,5(10)-triene-3,16α-diol,

7α-**i**-propyl-estra-1,3,5(10)-triene-3,16α-diol,

7α-**i**-propenyl-estra-1,3,5(10)-triene-3,16α-diol,

7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

7α-methoxy-estra-1,3,5(10)-triene-3,16α-diol

7α-thiomethyl-estra-1,3,5(10)-triene-3,16α-diol,

7α-cyanomethyl-estra-1,3,5(10)-triene-3,16α-diol,

7β-ethyl-estra-1,3,5(10)-triene-3,16α-diol,

7β-propyl-estra-1,3,5(10)-triene-3,16α-diol,

7β-**i**-propyl-estra-1,3,5(10)-triene-3,16α-diol,

7β-**i**-propenyl-estra-1,3,5(10)-triene-3,16α-diol,

7β-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

7β-methoxy-estra-1,3,5(10)-triene-3,16α-diol,

7β-thiomethyl-estra-1,3,5(10)-triene-3,16α-diol,

7β-cyanomethyl-estra-1,3,5(10)-triene-3,16α-diol,

7α-ethyl-estra-1,3,5(10)-triene-3,16β-diol,

7α-propyl-estra-1,3,5(10)-triene-3,16β-diol,

7α-**i**-propyl-estra-1,3,5(10)-triene-3,16β-diol,

7α-**i**-propenyl-estra-1,3,5(10)-triene-3,16β-diol,

7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

7α-methoxy-estra-1,3,5(10)-triene-3,16β-diol,

7α-thiomethyl-estra-1,3,5(10)-triene-3,16β-diol,

7α-cyanomethyl-estra-1,3,5(10)-triene-3,16β-diol,

7β-ethyl-estra-1,3,5(10)-triene-3,16β-diol,

7β-propyl-estra-1,3,5(10)-triene-3,16β-diol,

7β-**i**-propyl-estra-1,3,5(10)-triene-3,16β-diol,

7β-**i**-propenyl-estra-1,3,5(10)-triene-3,16β-diol,

7β-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

7β-methoxy-estra-1,3,5(10)-triene-3,16β-diol,

7β-thiomethyl-estra-1,3,5(10)-triene-3,16β-diol,

7β-cyanomethyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-methyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-ethyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-propyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-allyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-**i**-propyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-**i**-propenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-methoxy-estra-1,3,5(10)-triene-3,16α-diol,

15α-thiomethyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-methyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-ethyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-propyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-allyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-**i**-propyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-**i**-propenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-methoxy-estra-1,3,5(10)-triene-3,16β-diol,

15α-thiomethyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-methyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-ethyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-propyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-allyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-i-propyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-i-propenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-methoxy-estra-1,3,5(10)-triene-3,16α-diol,

15β-thiomethyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-methyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-ethyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-propyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-allyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-i-propyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-i-propenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-methoxy-estra-1,3,5(10)-triene-3,16β-diol,

15β-thiomethyl-estra-1,3,5(10)-triene-3,16β-diol,

7α-trifluoromethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-pentafluoroethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-ethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-i-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-i-propenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-phenyl-11β-Fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-methoxy-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-thiomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-cyanomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7β-ethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7β-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7β-**i**-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7β-**i**-propenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7β-phenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7β-methoxy-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7β-thiomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7β-cyanomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-ethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7α-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7α-**i**-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7α-**i**-propenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7α-phenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7α-methoxy-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7α-thiomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7α-cyanomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7β-ethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7β-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7β-**i**-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7β-**i**-propenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7β-phenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7β-methoxy-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7β-thiomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

7β-cyanomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15α-methyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15α-ethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15α-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15α-allyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15α-i-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15α-i-propenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15α-methoxy-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15α-thiomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15α-methyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15α-ethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15α-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15α-allyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15α-i-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15α-i-propenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15α-methoxy-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15α-thiomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15β-methyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15β-ethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15β-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15β-allyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15β-i-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15β-i-propenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15β-methoxy-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15β-thiomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

15β-methyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15β-ethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15β-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15β-allyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15β-i-propyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15β-i-propenyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15β-methoxy-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

15β-thiomethyl-11β-fluoro-estra-1,3,5(10)-triene-3,16β-diol,

14α,15α-methylene-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

14β,15β-methylene-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

11β-methoxy-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

7α-phenyl-8α-estra-1,3,5(10)-triene-3,16α-diol,

7α-phenyl-estra-1,3,5(10)-triene-2,3,16α-triol,

17β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

18a-homo-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

18a-homo-14α,15α-methylene-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

14α,15α-methylene-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

14β,15β-methylene-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

11β-methoxy-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

7α-phenyl-8α-estra-1,3,5(10)-triene-3,16β-diol,

7α-phenyl-estra-1,3,5(10)-triene-2,3,16α-triol,

17β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

18a-homo-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

18a-homo-14α,15α-methylene-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-methyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-ethyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-propyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-allyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-**i**-propyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-**i**-propenyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-methoxy-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-thiomethyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-methyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-ethyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-propyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-allyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-**i**-propyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-**i**-propenyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-methoxy-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-thiomethyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-methyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-ethyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-propyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-allyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-**i**-propyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-**i**-propenyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-methoxy-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-thiomethyl-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-methyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-ethyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-propyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-allyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-**i**-propyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-**i**-propenyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-methoxy-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-thiomethyl-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-methyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-ethyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-propyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-allyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-**i**-propyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-**i**-propenyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-methoxy-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-thiomethyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15α-methyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-ethyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-propyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-allyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-**i**-propyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-**i**-propenyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-methoxy-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15α-thiomethyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-methyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-ethyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-propyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-allyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-i-propyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-i-propenyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-methoxy-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-thiomethyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16α-diol,

15β-methyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-ethyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-propyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-allyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-i-propyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-i-propenyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-methoxy-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

15β-thiomethyl-11β-fluoro-7α-phenyl-estra-1,3,5(10)-triene-3,16β-diol,

11β-[2-(3-methylthien)-yl)-estra-1,3,5(10)-triene-3,16α-diol,

11β-[2-(3-methylthien)-yl)-estra-1,3,5(10)-triene-3,16β-diol,

13α-estra-1,3,5(10)-triene-3,16α-diol,

13α-estra-1,3,5(10)-triene-3,16β-diol,

14β-estra-1,3,5(10)-triene-3,16α-diol,

14β-estra-1,3,5(10)-triene-3,16β-diol,

11β-methylestra-1,3,5(10)-triene-3,16α-diol,

11β-methylestra-1,3,5(10)-triene-3,16β-diol,

11β-methyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

11β-methyl-18a-homoestra-1,3,5(10)-triene-3,16β-diol,

11β-ethylestra-1,3,5(10)-triene-3,16α-diol,

11β-ethylestra-1,3,5(10)-triene-3,16β-diol,

11β-ethyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

11β-ethyl-18a-homoestra-1,3,5(10)-triene-3,16β-diol,

11β-vinylestra-1,3,5(10)-triene-3,16α-diol,

11β-vinylestra-1,3,5(10)-triene-3,16β-diol,

11β-vinyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

11β-vinyl-18a-homoestra-1,3,5(10)-triene-3,16β-diol,

11β-ethinylestra-1,3,5(10)-triene-3,16α-diol,

11β-ethinylestra-1,3,5(10)-triene-3,16β-diol,

11β-ethinyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

11β-ethinyl-18a-homoestra-1,3,5(10)-triene-3,16β-diol,

9α-methylestra-1,3,5(10)-triene-3,16α-diol,

9α-methylestra-1,3,5(10)-triene-3,16β-diol,

9α-methyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

9α-methyl-18a-homoestra-1,3,5(10)-triene-3,16β-diol,

7α-methyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

7α-methyl-18a-homoestra-1,3,5(10)-triene-3,16β-diol,

7α-ethyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

7α-ethyl-18a-homoestra-1,3,5(10)-triene-3,16β-diol,

7α,11β-dimethylestra-1,3,5(10)-triene-3,16α-diol,

7α,11β-dimethylestra-1,3,5(10)-triene-3,16β-diol,

7α,11β-dimethyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

7α,11β-dimethyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

16β-ethinyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

16α-ethinyl-18a-homoestra-1,3,5(10)-triene-3,16β-diol,

7α-methyl-16β-ethinylestra-1,3,5(10)-triene-3,16α-diol,

7α-methyl-16α-ethinylestra-1,3,5(10)-triene-3,16β-diol,

7α-methyl-16β-ethinyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol,

7α-methyl-16α-ethinyl-18a-homoestra-1,3,5(10)-triene-3,16β-diol,

11β-methyl-16β-ethinylestra-1,3,5(10)-triene-3,16α-diol,

11β-methyl-16α-ethinylestra-1,3,5(10)-triene-3,16β-diol,

11β-methyl-16β-ethinyl-18a-homoestra-1,3,5(10)-triene-3,16α-diol, or

11β-methyl-16α-ethinyl-18a-homoestra-1,3,5(10)-triene-3,16β-diol.

64. A compounds according to claim 63, which compound is:

7α-fluoro-estra-1,3,5(10)-triene-3,16α-diol,

7α-methyl-estra-1,3,5(10)-triene-3,16α-diol,

7α-methyl-estra-1,3,5(10)-triene-3,16α-diol, or

18α-homo-estra-1,3,5(10)-triene-3,16α-diol.

65. A pharmaceutical composition containing at least one compound according to claim 53 and a pharmaceutically compatible vehicle.

66. A method for the treatment of an estrogen-deficiency-induced disease in a woman or a man which comprises administering an effective amount of a compound according to claim 53.

67. The method of claim 66, wherein the disease is a peri- or post-menopausal symptom.

68. The method of claim 66, wherein the disease is a peri- and post-male-menopausal symptoms.

69. The method of claim 66, wherein the disease is hot flashes, a sleep disturbance, irritability, mood swings, incontinence, vaginal atrophy, or a hormone-deficiency-induced emotional disease.

70. The method of claim 66, wherein the disease is a disease in the urogenital tract.

71. The method of claim 66, wherein the disease is a gastrointestinal disease.

72. The method of claim 66, wherein the disease is an ulcer or hemorrhagic diatheses in the gastrointestinal tract.

73. The method of claim 66, wherein the disease is a neoplasias.

74. The method of claim 66, wherein the disease is a male infertility and the administration is in-vitro.

75. The method of claim 66, wherein the disease is male infertility and the treatment is in-vivo.

76. The method of claim 66, wherein the disease is female infertility and the treatment is in-vitro.

77. The method of claim 66, wherein the disease is female infertility and the treatment is in-vivo.

78. The method of claim 66, wherein the disease is a hormone replacement therapy (HRT).

79. The method of claim 66, wherein the disease is a hormone-deficiency-induced symptom in the case of surgical, medicinal or ovarian dysfunction that is caused in some other way.

80. The method of claim 66, wherein the disease is a hormone-deficiency-induced bone mass loss.

81. The method of claim 66, wherein the disease is osteoporosis.

82. The method of claim 66, wherein the disease is a cardiovascular disease.

83. The method of claim 66, wherein the disease is a vascular disease.

84. The method of claim 66, wherein the disease is arteriosclerosis.

85. The method of claim 66, wherein the disease is neointimal hyperplasias.

86. The method of claim 66, wherein the disease is a hormone-deficiency-induced neurodegenerative disease.

87. The method of claim 66, wherein the disease is Alzheimer's disease or hormone-deficiency-induced impairment of memory and learning capacity.

88. The method of claim 66, wherein the disease is an inflammatory disease or disease of the immune system.

89. The method of claim 66, wherein the disease is benign prostate hyperplasia (BPH).